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09/724,179	11/28/2000	Wenhua Lin	LIGHT1320	7760

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EXAMINER	
CURS, NATHAN M	
ART UNIT	**PAPER NUMBER**
2633	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/724,179	Applicant(s) LIN, WENHUA	
	Examiner Nathan Curs	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-43 and 45-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38-43 and 45-52* is/are rejected.

7)☒ Claim(s) *45-52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4, 5 and 10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 45-52 have been renumbered 44-51 and referred to as such below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 46 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46 recites the limitation "the first alternate channel". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 38, 39, 44, 45 and 47-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Alexander et al. (US Patent No. 5712932).

Regarding claim 38, Alexander et al. disclose an add/drop apparatus, comprising: a channel selector (fig. 1A, element 100) configured to receive a plurality of channels that include a first channel and a second channel (col. 2, lines 6-39), the channel selector being configured to transmit the first channel to an add/drop node and the second channel to an output node when in a first channel mode and being further configured to transmit the second channel to the add/drop node and the first channel to the output node when in a second channel mode (fig. 1A and col. 7, lines 7-8 and lines 30-51); and a switch configured to receive a plurality of optical channels and to direct the optical channels such that the optical channels are received by the channel selector or such that the optical channels bypass the channel selector and are received at the output node (figs. 1A and 1B and col. 6, lines 21-24), an optical path along which the channels travels from the switch to the channel selector being exclusive of an optical path from the channel selector to the add/drop node and also exclusive of an optical path from the channel selector to the output node (fig. 1A, elements 80).

Regarding claim 39, Alexander et al. disclose the apparatus of claim 38, wherein the channel selector is configured such that a bandwidth of a channel directed to the add/drop node can be tuned (col. 7, lines 7-8 and lines 30-51).

Regarding claim 44, Alexander et al. disclose the apparatus of claim 38, further comprising: a controller configured to operate the switch such that channels are directed to the output port when changing the apparatus between the first channel mode and the second channel mode (col. 7, lines 52-54).

Regarding claim 45, Alexander et al. disclose the apparatus of claim 38, wherein: the channel selector is configured such that a first alternate optical channel traveling from the add/drop node to the channel selector travels from the channel selector to the output node when the channel selector is in the first channel mode (fig. 1C and col. 8, lines 44-52).

Regarding claim 47, Alexander et al. disclose the apparatus of claim 38, further comprising: one or more second channel selectors configured to receive channels from the switch, each of the second channel selectors configured to transmit one or more of the channels to the add/drop node (fig. 1A, elements 80 and col. 7, lines 7-8 and lines 30-51).

Regarding claim 48, Alexander et al. disclose the apparatus of claim 47, wherein one or more of the channel selectors is a fixed channel selector (col. 9, lines 58-63).

Regarding claim 49, Alexander et al. disclose the apparatus of claim 47, further comprising: an optical channel coupler configured to receive channels from the channel selector and from the one or more second channel selectors and to direct the received channels to the output port (fig. 1C element 70).

Regarding claim 50, Alexander et al. disclose the apparatus of claim 38, wherein the channel selector is configured to transmit a plurality of channels to an add/drop when in the first channel mode (col. 7, lines 7-8 and lines 30-51).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 40-43, 46 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander et al. (US Patent No. 5712932).

Regarding claim 40, Alexander et al. disclose the apparatus of claim 39, wherein the channel selector includes a bandwidth tunable filter module comprising: a first optical filter element configured to divert a channel from a beam that includes a plurality of the channels, the first portion having a first bandwidth; and a second optical filter element configured to divert the channel from the beam such that the channel has a second bandwidth (fig. 1A, element 100 and elements 80 and col. 7, lines 7-8 and lines 30-51). Alexander et al. do not disclose different bandwidths for first and second filters used together; however, based on Alexander et al. disclosure of configuring the filter to filter more than one optical wavelength and using mechanical strain to reconfigure the grating (where changing the bandwidth of a grating via mechanical strain is well known in the art), it would have been obvious to one of ordinary skill in the art at the time of the invention that any of the filter elements of Alexander et al. could be configured to filter different bandwidths than the other filters, in order to provide the benefit of extracting signals of differing bandwidths or extracting a signal made up of more than one wavelength.

Regarding claim 41, Alexander et al. disclose the apparatus of claim 40, but do not specifically disclose that the first optical filter element is arranged to move in conjunction with the second filter element. However, Alexander et al. do disclose the switch-based filters arranged in series (fig. 1A), and disclose the ideal of minimizing switching time (col. 7, lines 25-28), where it would have been obvious to one of ordinary skill in the art at the time of the invention to move the serial switches in conjunctions with each other to minimize the total switching time that could cause lost traffic.

Regarding claim 42, Alexander et al. disclose the apparatus of claim 40, further comprising: an adjustment mechanism configured to position the first and the second optical filter element relative to the beam in accordance with a desired optical bandwidth of a diverted signal (fig. 1A, elements 80 and col. 7, lines 7-8 and lines 30-51), where gratings disclosed by Alexander et al. are tuned to different wavelengths, thus different bandwidths. Alexander et al. also disclose configuring the filter to filter more than one optical wavelength and using mechanical strain to reconfigure the grating (where changing the bandwidth of a grating via mechanical strain is well known in the art).

Regarding claim 43, Alexander et al. disclose the apparatus of claim 40, wherein the adjustment mechanism is further configured to position the first and the second optical filter element relative to the light signal such that the channel selector transmits the desired channel to the add/drop node (fig. 1A, elements 80 and col. 7, lines 7-8 and lines 30-51).

Regarding claim 46, Alexander et al. disclose the apparatus of claim 41, but do not specifically disclose that the channel selector is configured such that when in the first channel mode, a first alternate channel is directed to the output node with a different bandwidth than the first channel directed to the add/drop node. However, based on Alexander et al. disclosure of configuring the filter to filter more than one optical wavelength and using mechanical strain to reconfigure the grating (where changing the bandwidth of a grating via mechanical strain is well known in the art), it would have been obvious to one of ordinary skill in the art at the time of the invention that the bandwidth of each filter element of Alexander et al. could be configured with enough bandwidth to accommodate add and drop signals of differing bandwidth.

Regarding claim 51, Alexander et al. disclose a method for operating an add/drop apparatus, comprising: directing a plurality of optical channels from an optical switch to a channel selector (fig. 1A, element 80, col. 6, lines 19-24, and col. 2, lines 6-39), the channel

selector being configured to direct a portion of the optical channels to an output node (fig. 1A, element 50); operating the switch such that the optical channels are directed from the switch to an output node along an optical path that bypasses the channel selector, the switch being operated after directing the plurality of optical channels from the switch to the channel selector (col. 1, lines 6-11 and col. 6, lines 19-24), where reconfiguring the wavelength routing in the Alexander et al. system accounts for any sequence of reconfiguration, including the sequence of filtering a channel for add/drop and then later reconfiguring the channel to be bypassed; tuning the channel selector so as to change the portion of the optical channels directed from the channel selector to the add/drop node, the channel selector being tuned after operating the switch (col. 7, lines 7-8 and lines 30-51), where reconfiguring the wavelength routing in the Alexander et al. system accounts for any sequence of reconfiguration, including the sequence of filtering a wavelength and then later reconfiguring the filter to filter another wavelength and where it would have been obvious to one of ordinary skill in the art at the time of the invention to only switch channels either before or after a tuning sequence of the channel selector, in order to avoid sending the signals into the channel selector during the tuning sequence; and operating the switch such that the plurality of channels are directed from the switch to the channel selector (col. 6, lines 19-24), where it would have been obvious to one of ordinary skill in the art at the time of the invention to only switch channels from the bypass switch position to the channel selector switch position after a tuning sequence of the channel selector is complete, in order to avoid sending the signals into the channel selector during the tuning sequence.

Response to Arguments

5. Applicant's arguments with respect to claims 38-52 have been considered but are moot in view of the new ground(s) of rejection.

The applicant canceled all previous claims and argued that the new claims overcome the previous rejections. However, this argument is moot in view of the new grounds of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

7. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (703) 305-0370. The examiner can normally be reached M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600